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The Tangible Presence of Human Labor in Architecture

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Abstract. *This essay aims to show that in many of the theories that fundament material culture and architectural experience, labor is implied in the constitution of material and, although seldom directly addressed, it is a determining dimension of materiality. From the Vitruvian and Renaissance treatises and Gottfried Semper to John Ruskin and the Art and Crafts Movement, the underlying presence of labor can be seen intertwined with materials whenever they are called into architectural discussion as sensorial arguments. Just like the physical qualities of materials, labor, skills and techniques are imprinted in the built environment and contribute to the creation of particular atmospheres.*

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The importance of materials in the experience of architectural spaces is hardly questioned, however, most of the discussions stop short of addressing how it relates to its production dimension. Based on the semiology of Peirce, Brazilian architect, painter and theorist Sérgio Ferro argues that it is possible to follow the *index* character of materials to find traces of labor (Ferro, 2006). Understanding the history of the built environment as a collective history, he states that materials can be seen as *signs* and, as such, vestiges of productive operations in their making and employment in construction allow the examination of the proximal production relations on the built environment. In other words, they are signatures of labor in the objective manifestation of materials, as part of their semiological constitution. As symbolically charged elements, they reverberate in perception, reflecting the sociocultural heritage of architectural production: tracing the movements, skills, techniques and the cultural background of their production, and so, acting as representations of their makers. A similar argument can be found in Alfred Gell, reflecting on the distinction between art and artifact (Gell, 1996): artifacts, by their own material form and function, serve as ways in which the world of its maker can be read. Being "models" ingrained with the relationships encompassed in its production and its use, artifacts carry in themselves cultural, material and social relationships that trace back its emergence in a particular world-view. In his words: "there cannot be a hammer by itself; a hammer implies nails to be hammered, wood to hammer them into, saws to shape the wood, and so forth" (Gell, 1996).

Therefore, labor is imprinted in materials, as part of their productive environment, and gains a tangible presence in the built environment, indissociable from the physical qualities of architectural elements. As Ingold argues, it becomes part of "the forces

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and flows of material that bring the form of the work into being" (Ingold, 2009). However, identifying these flows is a process of abduction, that deals with the alignment of possibilities, rather than precise associations (Ferro, 2006; Gell, 1996). The level of recognition of the signified material relations depends on the knowledge and experience of the interlocutor: one can only "see in the beams traces of the movements of the axe that cut them" if one is familiar with axes and how they are used (Ingold, 2009). It is expected that the attributes of labor are also perceived and incorporated in theoretical works, especially those with focus on material; but important insights can be drawn from the examination on how the question is presented in these works. The goal of this essay is to show occasions where it may have taken place, as an argument for the validity of these statements, and to give an initial outline of how this perspective can affect architectural theory.

Treatises

Starting from earlier works, interesting examples can be found in two of the most long-lasting and influential treatises on architecture. Vitruvius' *Ten Books on Architecture* correlation to labor seems timid, but the distinction of "practice" and "theory"[2] and their co-dependent relation shows that Vitruvius was well aware of the contributions of labor to the resulting environments. The author notes that the observation of the "mode of execution, or of the mere operation of the hands" is essential for the transformation of matter "in best and readiest way" (Vitruvius, 1955a)[3], to the extent that architects who lack practical knowledge – the "frequent and continuous contemplation" of practice – fail to understand architecture properly, "grasping the shadow instead of the substance" (Vitruvius, 1955b). In addition, his chapters on materials go into a great degree of detail into their making, exploring which raw materials to use, in which conditions to prepare them and so on.

While Vitruvius balance the needs for craftsmanship and theory, the question of labor in Alberti can be seen from its negation or, in other words, in Alberti's efforts to separate the role of the architect from that of builder (Carpo, 2018). Standing at the twilight of the guild system, Alberti's defense for the division between intellectual and productive labors can be seen as a historical stance, aiming a rupture with medieval standards (Rykwert, 1982). If, for Alberti, "architecture that can exist as an image in the mind that is perfect, uncorrupted by matter and mistakes" (Williamson, 2019), it implies that, despite the foundation for beauty being primarily the mathematical order, it is still dependent of proper realization – the fact that labor can poorly translate architecture into the built environment, *corrupting* its ideal form, is, nonetheless, a proof of its contributions: his attempt to orient the labor of artists, dedicating entire chapters of his ***De re** Ædificatoria* to matter, building techniques and restauration, can be seen as ways to remedy the lack of ability of artisans to properly realize the ideal mathematical models. It can also be seen as an attempt to control their labor, transforming them in "no more than an instrument" in their architect's hand (Alberti, 1988). Following the abduction approach, Alberti's words indicate a dissatisfaction with medieval modes of production that follow a structure in which theory and practice are undivided and, thus, more propense to corruption.

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2. Appearing in the 8th century Harleian Manuscript as "fabrica" and "ratiocination" and translated by Frank Granger as "craftsmanship" and "technology" (Vitruvius, 1955a). The translations "practice" and "theory" are present in the version by Morgan (Vitruvius, 1955b).

3. Interesting to note that, in Frank Granger's translation, he states on a footnote that "Vitruvius recognizes the genius of the craftsman" (Vitruvius, 1955a).

Semper

While assuming art's derivation from nature, as in the Greek temple's abstraction of the tree, Gottfried Semper doesn't seek a simple return to nature as a way to further develop art but, on the contrary, states that "[t]he most primitive tribes we know present us with an image not of the primeval human condition but of its impoverishment and stultification" (Semper, 2004). Art, in his perspective, appears to be closely related to the progressive change of nature's forms into human or artificial ones. Remarkably, this formulation requires human activity; in other words, labor. The logic can be traced in Semper's categories: it is easy to perceive how closely they are related to production processes by associating their terms with the corresponding verbs: for "textiles" we would have *weaving*; "ceramics" could be linked to *molding*, 'tectonics', *joining*; and 'stereotomy', *stacking*[4]. It is true, however, that Semper's focus on *shape* inverts the logic underlying his own classification, pushing the *processes* to the background, and leading him into a strange position that seemly contradicts his own premises and anthropological approach:

> Conversely, there are objects that certainly belong to ceramics from the point of view of materials, inasmuch as they are formed from a soft mass that was hardened and fixed. *But they should be seen as relating to ceramics only secondarily, because formally they are in a different sphere*. (Semper, 2004, 110, our highlights)

This sort of contortionism is abundant, and it derives from a conscious decision to position style over materiality (Cache, 2002). However, this view stresses the important point that materials are products of human labor as well. When looking on how bricks are made, they are indeed ceramic, but considering "how they are used in production," they constitute masonry or, in the Semperian stylistic view, even textile (Semper, 2004). Regardless of which he prefers, it is possible to argue that in his theory labor is embedded in materials in a two-fold way: in how they are made and in how they are employed in construction. More importantly, they appear as directly related to how architectural objects are perceived, as "every technical product is a result of purpose and material" (Semper, 2004), and thus labor processes can be identified as defining features of in the composition of style. Even recognizing his distinction between art and technology, as "art has a language of its own, consisting of formal types and symbols" while technology categories are the ones referring to the way things are made, in their link labor becomes ingrained in the symbols and types as their primeval archetypes (Semper, 2004).

Art and Crafts

The acknowledgement of the influence of labor in the experience of architecture reaches a peak on the *Arts and Crafts Movement*, owning much of its philosophy to John Ruskin and his sublimation of the imperfect (Carpo, 2018). Ruskin argues that it is possible to apprehend in materials whether there was "a care about them" (Ruskin, 1849), suggesting that the traces of craftspeople's labor "which has visibly been employed upon them" express a "vital energy" in the built environment that is "no inconsiderable part of the essential characters of Beauty" (Ruskin, 1849) – in fact, they relate to his Lamp of Life (Carpo, 2018). This leads him to advocate for the "truth to materials and honest display of actual construction" (Baljon, 1997), as in his defense that "the masonry of a building is to be shown" (Ruskin, 1849). In Ruskin,

4. This approach is loosely based on the lectures of Prof. Tom Avermaete, developing his initial thoughts on architectural epistemes, which can be found at "Architecture and its Epistemes" (Avermaete 2016).

labor is related to the attendance of beauty by associating architecture with nature – the "source and paradigm of all authentic beauty" – as the "efforts, physical or organizational, invested in the construction by its builders" that become expressions of the mind "accepted" by nature as its representation (Baljon, 1997).

In connection to Ruskin, Willian Morris' calls for beauty in everyday artifacts might seem like a pure reference to æsthetics, but are in reality deeply involved in questions of labor (Kapp, 2016). Morris claims involve the defense of *handicraft* over machinery production, implying a particular beauty contained in the products of human labor that cannot be replicated in industrial production (*Bradley, His Book*, 1896). Ultimately, it follows his understanding of art as the expression of pleasure in the process of work (Ferro, 2006) – in other words, as "emancipated labor" (Kapp, 2016) – perceptible in his utopian piece *News from Nowhere*, from 1890, where "intellectual knowledge is one among other kinds of knowledge" and "people do not appreciate art … but instead produce it every day"; a society where "people discovered that the material exchange with nature can be fun, and that making things with one's own hands and mind can be a great pleasure" (Kapp, 2016), resulting in the derationalization of many productions, under the realization that "machines could not produce works of art" (Morris, 1908). Morris concept of art is fundamental to understand his contributions and shows how dramatically can the perception of labor influence practice and ideology. It shows that, for trained eyes, the built environment can appear directly as a witness of the traditions, skills and social conditions of labor. In close relation to Ruskin, Morris is able to see beyond the objective shell of materials, through the marks of labor, into the hands and the experience of the craftspeople, and associate this perception to the emergence of beauty.

Concluding Remarks

While ideals of beauty, style, art and æsthetics in these authors differ in form and content, they show a tendency of relating the product of human labor to a particular perceptual fruition of architectural objects – be it its corruption or otherwise. Underlying their theoretical developments, it is possible to recognize a missing connection, often underexplored, that suggests how labor is inscribed in the material manifestation of architectural objects, making its way in perception and shaping how the experience of the built environment is constructed subjectively. In that sense, our perception of the environment includes recognition of architecture as a collective endeavor, encompassing the ways of making performed in our social and historical contexts – in other words, as "part of a *zeugganzes* – a system of tools, a technical system forming a whole" (Gell, 1996).

On a darker note, what also surfaces is a tension between the acknowledgement of labor's sensorial manifestation and an overruling force keeping it peripheric in architectural discourse. When architectural discourse foster an idealist notion that materials are primarily means of reference, materiality becomes diminished to an *image* (Ferro, 2016). The immediate physical qualities of materials appear as the most important constituents of the architectural atmosphere, and their composition by the architect's careful curation becomes the primary concern, feeding arguments of authorship, personal interest, inspiration and innovation – a particular lexicon that doesn't include productive labor. This skewed notion of materiality opposes the actual recognition of labor in architectural objects, as can be seen in Ferro's account of the construction of Le Corbusier's La Tourette (Ferro, 2006). From archival research, the author shows that, in contradiction to the discourse of rationality of brutalism, the building process of the monastery was anything but rational, marked by all sorts of mistakes, improvisation, inadequacy, etc. Far from the constructive honesty it represents, the example shows that materiality can be manipulated to *simulate* a mode of production, stimulating

a false interpretation of the actual material trajectories of a building. Returning to the process of abduction, it poses the question of which possible associations architecture discourse fosters, and brings to mind the necessity to remember the duality of architecture as *fiction*, a *signifier*; a representation of society.
Confronting this contradiction requires the inclusion of such questions in both theory and practice. As in the above-mentioned research, historiographical reviews on architecture by the perspective of labor are particularly important. It is a first step to incorporating other epistemologies on architectural production, which may offer new ways to understand how materiality affects spatial experience and to take advantage of its potentialities, while clarifying the political and symbolic hierarchies underneath its surface. In the very least, it may open the discourse to other voices outside the traditional circles of architecture and help pave a way for a production that better reflects its social, material and historical environment and, thus, carries greater potential as a phenomenological construction.

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